

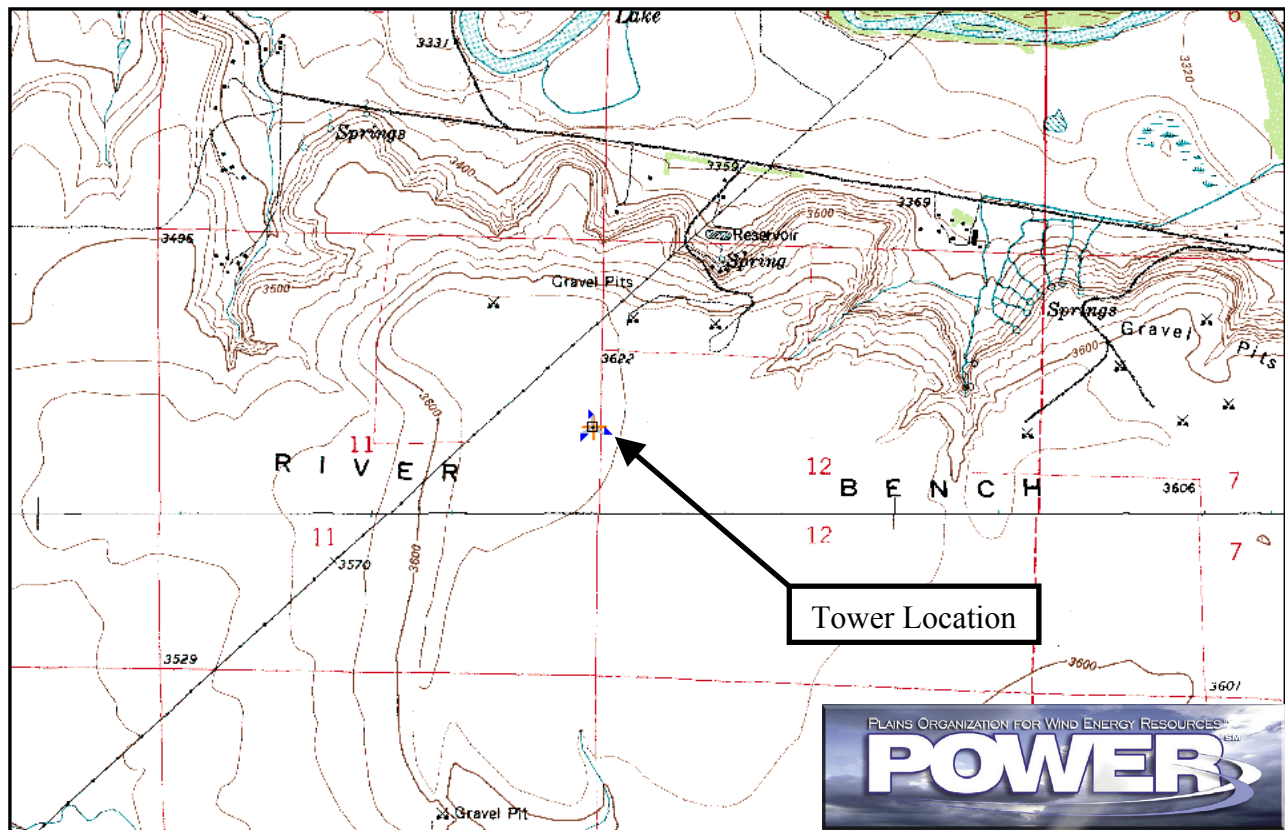
# Wind Resource Summary for Great Falls, MT

## Winter 2003 (December 2002 – February 2003)

### Site Description:

Latitude: N 47° 30' 10"	Township: 20 N
Longitude: W 111° 25' 56"	Range: 2 E
Elevation: 3,627 feet	Section: 11
Tower Type: NRG Tilt-Up	Tower Height: 131 feet

The tower is approximately 7 miles west of Great Falls and located on a rim above the Sun River. The site has good exposure to the wind in all directions.

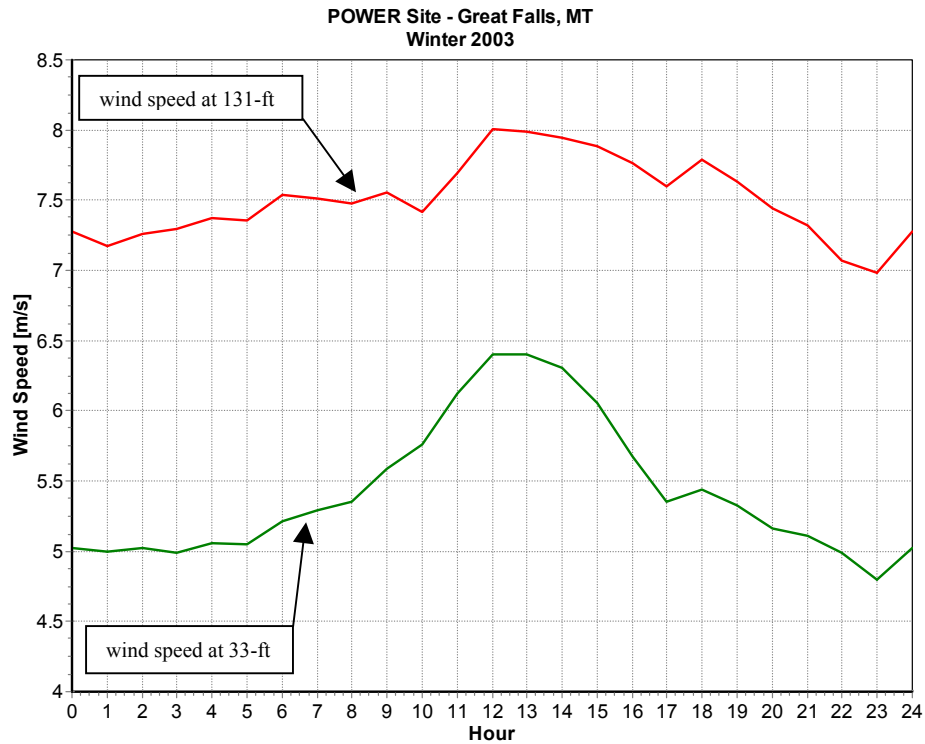


Summary Wind Data:	33-ft AGL <sup>a</sup>	98-ft AGL	131-ft AGL
Mean Wind Speed	12.2 mph	15.1 mph	16.8 mph
Maximum, 10-min Mean Wind Speed	38.5 mph	44.4 mph	48.6 mph
Mean Wind Power Density	239 W/m <sup>2</sup>	436 W/m <sup>2</sup>	580 W/m <sup>2</sup>

<sup>a</sup> Above ground level.

## Average Hourly Wind Speeds

LST	131-ft AGL	131-ft AGL	33-ft AGL	33-ft AGL
	(m/s)	(mph)	(m/s)	(mph)
0000	7.28	16.3	5.02	11.2
0100	7.17	16.0	4.99	11.2
0200	7.26	16.2	5.02	11.2
0300	7.30	16.3	4.99	11.2
0400	7.38	16.5	5.06	11.3
0500	7.36	16.5	5.05	11.3
0600	7.54	16.9	5.21	11.7
0700	7.52	16.8	5.29	11.8
0800	7.47	16.7	5.36	12.0
0900	7.55	16.9	5.58	12.5
1000	7.42	16.6	5.76	12.9
1100	7.70	17.2	6.13	13.7
1200	8.00	17.9	6.40	14.3
1300	7.98	17.9	6.40	14.3
1400	7.95	17.8	6.31	14.1
1500	7.89	17.6	6.06	13.6
1600	7.77	17.4	5.68	12.7
1700	7.60	17.0	5.35	12.0
1800	7.79	17.4	5.44	12.2
1900	7.63	17.1	5.32	11.9
2000	7.44	16.6	5.16	11.5
2100	7.32	16.4	5.11	11.4
2200	7.07	15.8	4.99	11.2
2300	6.98	15.6	4.80	10.7



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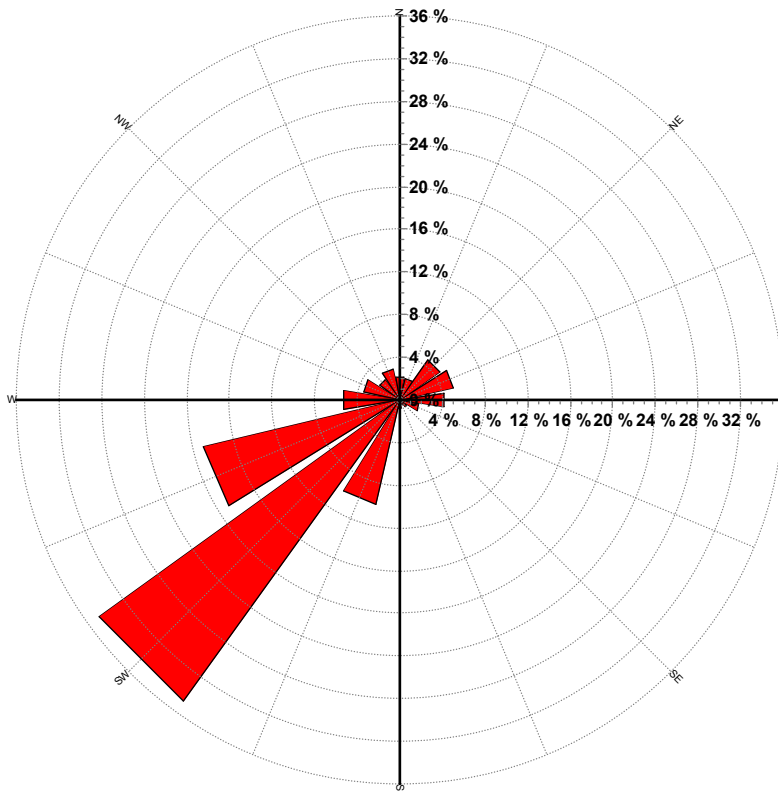
Creation Date: 11/06/2003

## Wind Directional Frequency

**Winds from the...    Frequency (%)**

NNW	3.0
NW	2.4
WNW	3.5
W	5.3
WSW	18.9
SW	34.7
SSW	10.0
S	0.8
SSE	0.4
SE	0.8
ESE	1.9
E	4.2
ENE	5.2
NE	4.6
NNE	2.1
N	2.2

**POWER Site - Great Falls, MT  
Wind Rose for 131-ft AGL  
Winter 2003**



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